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# **TW2834 Video QUAD/MUX Controller**

## **For Security Applications**

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Promotion Board User's Manual

*Information may change without notice*



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## General Description

### Overview

This document is a user's manual for the TW2834 Promotion Board. TW2834 Promotion Board is composed of TW2834, SDRAM frame buffer, Micom to control system and two pieces of Rec/Pb feedback slot. This board also provides very easy and convenient GUI interface through the mouse.

### Interface

#### Video Input

- VIN1A : Composite video input for VIN1's A path
- VIN1B : Composite video input for VIN1's B path (for pseudo 8ch system)
- VIN2A : Composite video input for VIN2's A path
- VIN2B : Composite video input for VIN2's B path (for pseudo 8ch system)
- VIN3A : Composite video input for VIN3's A path
- VIN3B : Composite video input for VIN3's B path (for pseudo 8ch system)
- VIN4A : Composite video input for VIN4's A path
- VIN4B : Composite video input for VIN4's B path (for pseudo 8ch system)

#### Video Output

- Four DAC outputs
  - one S-Video (display)
  - two CVBS (display and record)

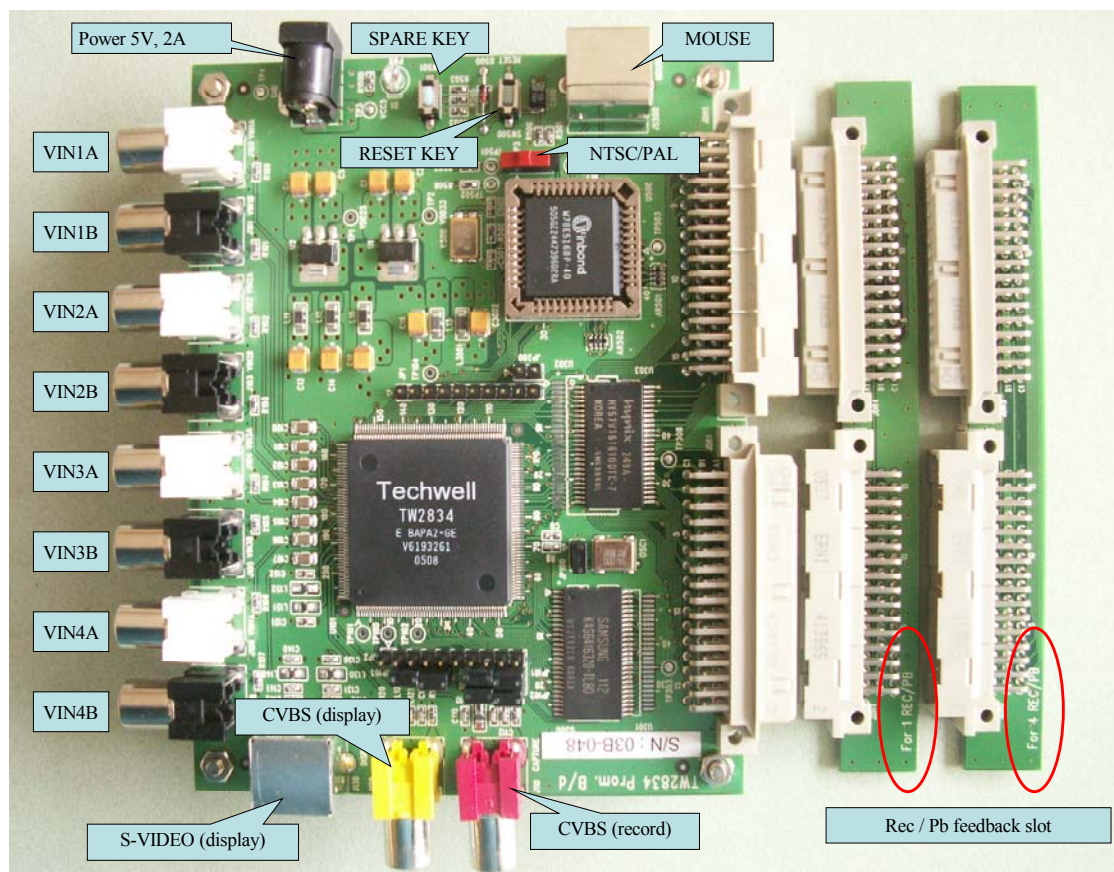
#### NTSC/PAL System

- JP3 : 1-2 for NTSC, 2-3 PAL
- After setting this jump, Press reset button to restart system.

#### Power Line

- J1 : 5V DC, 2A

## Board Diagram



## Operation Description

### Mouse Button


There are normally 2 kinds of operation when pushing mouse button.

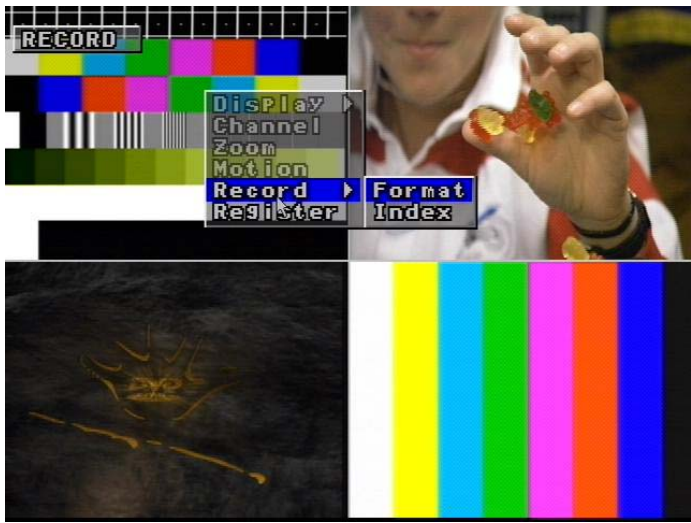
|                           | Left button                                   | Right button                       |
|---------------------------|---|------------------------------------|
| <i>No menu on screen</i>  | - Freeze / Release Picture<br>- Changing path | - Pop up main menu                 |
| <i>Any menu on screen</i> | - Enable / Disable menu<br>- Decrease value   | - No operation<br>- Increase value |

Some special button operation will be explained in the "Register" item and "Queue setup" item in Record format menu.


### Main menu description

Main menu consists of 6 items such as Display, Channel, Zoom, Motion, Record and Register. Each item has it's own sub-menu. And 5 items except Register are activated in current path. To go sub-menu, move mouse to item and press left button.

| <i>Main Popup Menu (display path)</i>   | Item     | Description  |
|---|----------|--|
|  | Display  | - Display screen setting<br>- Playback input setting<br>- Playback index setting |
|   | Channel  | - Source selection<br>- Image enhance  |
|   | ZOOM     | - Zoom control   |
|   | Motion   | - Motion control<br>- Blind control  |
|   | Register | - Manual register control  |

| Main Popup Menu (record path)   |  | Item     | Description   |
|---|--|----------|---|
|  |  | Record   | <ul style="list-style-type: none"> <li>- Record format setting</li> <li>- Queue setup</li> <li>- No video mode setup</li> <li>- Record index setting</li> </ul> |
|   |  | Register | <ul style="list-style-type: none"> <li>- Manual register control</li> </ul>   |

### Display Screen menu (X path)

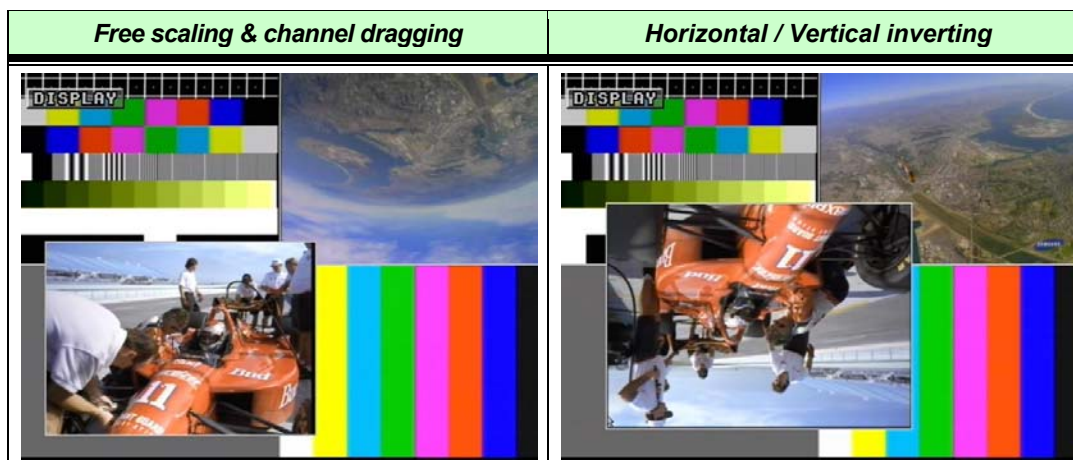
| Display Screen Menu   | Description   |
|---|---|
|  | <ul style="list-style-type: none"> <li>- Full / Quad : in 4 / 16 ch system</li> <li>- Pseudo 8ch : in 4 ch system</li> <li>- With Record</li> <li>♦ Pseudo 8ch with Record is activated in 4 ch system</li> <li>- 16 Split : 16 ch system</li> <li>♦ This is activated in 16ch system</li> <li>- No video mode setting</li> </ul> |



## 4 Channel System

### Free scaling & dragging

Each channel supports the free scaling, dragging and H / V inverting function via the mouse operation for 4ch system when no menu is activated. The free scaling & dragging can be achieved via pushing left button and moving mouse. When the mouse pointer is located on channel boundary and the left button is pushed, the free scaling is enabled. If the mouse pointer is located on the channel area and the left button is pushed, the channel dragging is enabled.

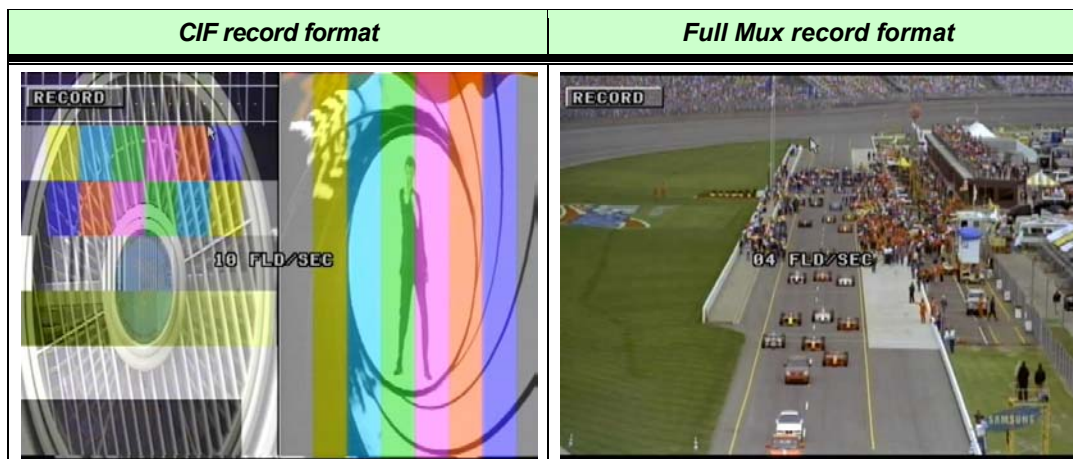


## 8 Channel System

Pseudo 8ch display format can be selected in this menu. In pseudo 8ch, the picture rate can be varied depending on record format in "With Record" option.

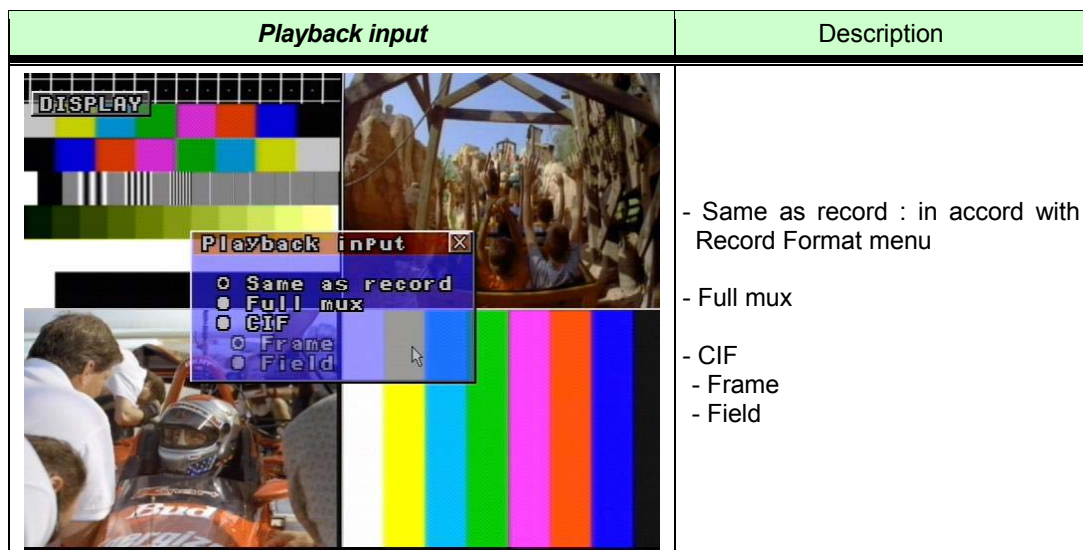
| Pseudo 8 ch display format | Description   |
|----------------------------|---|
|                            | <ul style="list-style-type: none"> <li>- Motion detection and free scaling / dragging function cannot be supported in this mode.</li> <li>- The picture rate is displayed on center of screen.</li> </ul> |

Without record option, the picture rate is the highest for displaying the video. With record option, the picture rate will be decreased because the analog mux switching should be controlled with the consideration of not only displaying but also recording the video.




### Play-back input menu (X path)

The playback input format can be defined in this menu.




**Play-back index menu (X path)**

The playback index specification can be controlled in this menu.

| Playback index  | Description   |
|---|---|
|  | <ul style="list-style-type: none"> <li>- Same as record : in accord with Record Index menu</li> <li>- Digital index</li> <li>- Analog index</li> <li>- Error correction</li> <li>- Run in clock</li> <li>- Auto detect</li> <li>- H start : 0 ~ 255</li> <li>- Pixel / bit : 0 ~ 31</li> <li>- V start : 0 ~ 31</li> <li>- # of line : 0 ~ 7</li> </ul> |

**Channel setup menu (X path)**

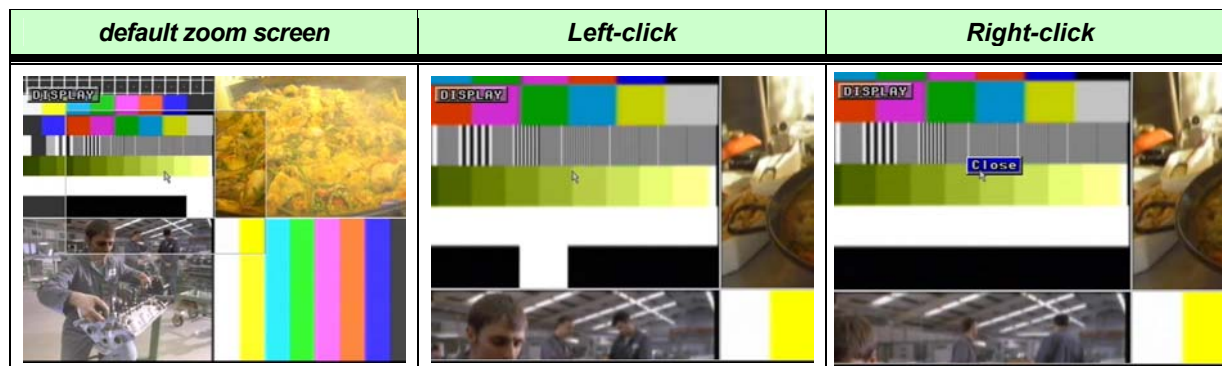
The input source of each channel can be selected in this menu.

| Channel setup   | Description  |
|---|--|
|  | <ul style="list-style-type: none"> <li>- Channel : 0 ~ 3</li> <li>- Live video : 0 ~ 3</li> <li>- Playback : 0 ~ 3</li> <li>♦ To select Playback source, Rec / Pb feedback slot should be connected to JDR1 / JDH1 port and analog index should be enabled in both record and playback index.</li> <li>- Enable enhance : Enhancement filter is enabled</li> </ul> |




**Zoom menu (X path)**

The zoom function can be controlled in this menu. Zoom area is moved via dragging mouse.


**Motion setup menu (X path)**



The motion and blind detection function can be controlled in this menu.

| Motion setup  | Description   |
|---|---|
|  | <ul style="list-style-type: none"> <li>- Channel : 0 ~ 3</li> <li>- Cell : 0 ~ 3</li> <li>- Level : 0 ~ 31</li> <li>- Velocity : 0 ~ 62</li> <li>- Spatial : 0 ~ 15</li> <li>- Temporal : 0 ~ 15</li> <li>- Display motion</li> <li>- Display mask</li> <li>- Cell : 0 ~ 3</li> <li>- Level : 0 ~ 15</li> </ul> |

### Record Format menu (Y path)


The record format is controlled in this menu. The Period, Queue setup and No video menu are activated when Full mux record format is selected.

| Record Format   | Description  |
|---|--|
|  | <ul style="list-style-type: none"> <li>- CIF <ul style="list-style-type: none"> <li>- Frame</li> <li>- Field</li> </ul> </li> <li>♦ Frame/Field menu is inactivated in pseudo 8ch.</li> <li>- Full mux <ul style="list-style-type: none"> <li>- Live</li> <li>- Field</li> <li>- Frame</li> </ul> </li> <li>♦ Live/Field/Frame menu is inactivated in pseudo 8ch.</li> <li>- Period : 0 ~ 1023</li> <li>- Queue setup</li> <li>- No video</li> </ul> |

| Field CIF record format   | Full Mux record format   |
|---|--|
|  |  |


**Queue setup menu (Y path)**

The Queue setup menu is activated when current record format is full mux. Mouse left-click decreases and right-click increases the queue data on each 8 x 8 table.

| Queue setup   | Description             |
|---|-------------------------|
|  | <p>- Size : 0 ~ 127</p> |

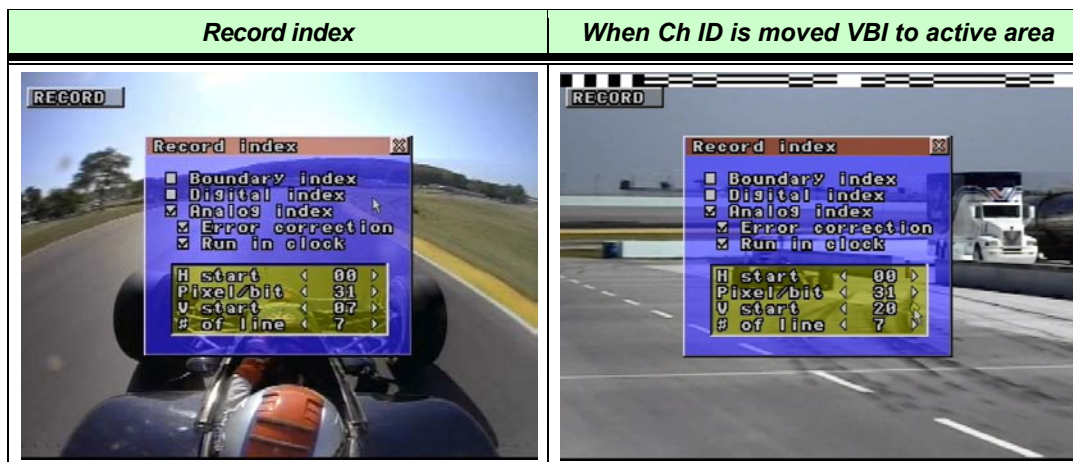
**No video menu (Y path)**

No video mode for Y path is controlled in this menu.

| No video setup  | Description  |
|---|--|
|  | <ul style="list-style-type: none"> <li>- Bypass</li> <li>- Holding</li> <li>- Blue back</li> <li>- Skip</li> <li>- Auto</li> <li>- Manual</li> </ul> |

### Record index menu (Y path)

The record index specification is controlled in this menu. The control of this menu is almost same as Playback index menu.



### Register control menu (Common)

To control register manually is achieved in this menu. Mouse left-click decreases and right-click increases the value on the selected data.





**Revision History**

| Revision | Date           | Description         |
|----------|----------------|---------------------|
| 1.0      | Mar/ 21 / 2005 | Engineering Release |